



STATE & PRIVATE FORESTRY FOREST HEALTH PROTECTION SOUTH SIERRA SHARED SERVICE AREA



Report No. SSSA 18-001

Date: December 1, 2017
File Code: 3400

To: Woody Smeck, SEKI Superintendent
Christy Bingham, SEKI Supervisor Natural Resources
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Subject: Forest Health Protection site visit to Sequoia and Kings Canyon National Parks

Background

On the November 7th and 8th, Entomologist, B. Bulaon, and Pathologist, M. MacKenzie, made their semi-annual visit to Sequoia and Kings Canyon (SEKI) National Park. In the company of Forester Tom Warner and Restoration Ecologist, Heyo Tjarks, we visited some of the most highly drought/bark beetle-impacted recreational sites at Cedar Grove and at the Lodgepole visitor's center. While the focus of our visit was on aspects of recreational forestry, it was clear that the backlog of standing dead trees will result in a future wave of tree failures if the current mitigation program (PW-062) is not vigorously maintained. This visit allowed for discussions on hazard tree evaluation and mitigation guidelines.

Observations at Lodgepole Visitors Campground and Market



Image 1. Where the past revegetation plantings were still not strongly impacting each other in the struggle for adequate water.



Image 2. Drought mortality where the past revegetation plantings were denser and the inter-tree competition for water had led to tree mortality.

Bulaon was able to assure the Park's staff what we were observing (above) was not an outbreak of a secondary insect such as *Ips* sp, but a direct effect of the drought. We were unable to find evidence of any bark beetle attack. Because, fir, lodgepole and ponderosa pines were dying, it was safe to blame drought and not bark beetles. Many of the dying trees were too small to be attractive to bark beetles; especially considering that there were so many other stressed trees already in a beetle-acceptable size class (see images 3 & 7). In the early 1980's, soon after the Lodgepole Market was built, there had been some replanting adjacent to the new buildings (image 3). This tree is now under attack by the red turpentine beetle, *Dendroctonus valens*. There was a discussion and agreement; that it is desirable for restoration projects to have a vegetation management plan that extends for many decades. While screening is desirable, it also requires thinning to keep it from crossing the threshold where it becomes susceptible to drought or beetle attack, and ultimately (as this one has done) become a future hazard tree. While the tree in image 3 was still green, and the red turpentine beetle (*Dendroctonus valens*) often does not kill it's host, all present expected (under the current conditions) that this tree will most likely succumb next summer.



Image 3. A larger pine close to the visitor's center, heavily attacked by red turpentine beetle

Observations at Cedar Grove

While Warner used the opportunity to provide restoration ecologist Tjarks with an outline of the past history of the recreational sites, he also provided the FHP staff with a review of the past cooperative work that had been done with past FHP cooperators. Much of this work had related to mitigation of the impact of dwarf mistletoe infections. It was obvious from our observations of the current level of dwarf mistletoe infection that the treatments had been successful. While at the time of pruning some of the trees might have looked like "lollipop trees" today they have regained natural and healthy looking crowns.

The focus on a visit to the Sentinel Campground in Cedar Grove was on the immediate impact of removing the trees that had died as a result of the drought and bark beetles, and thus had become highly hazardous (stumps marked with arrows in image 4). Removing the Hazard Trees in the campground resulted in the creation of some campsites that have no midday shade. On the day of the visit, as had been done on the day before, the options for

restoration were discussed. The discussions were built in part on the observations of similar restorations at the Grant Grove complex (image 5).



Image 4. Three campsites at Sentinel Campgrounds, Cedar Grove, where bark beetle-killed trees were removed. The stumps marked with arrows. Note the campgrounds are currently closed for the winter months and the picnic tables are up turned to prevent snow loading bending the table top. Three campsites with effectively no midday shade.

Other Discussions

On the trip around the visitors center at Grant Grove, Forester Warner and Entomologist Bulaon discussed their respective successes in using SPLAT to prevent mountain pine beetle attacks on sugar pines. And at other times Forester Warner and pathologist MacKenzie discussed the removal of hazard trees on those occasions where SPLAT had not been applied and the trees had been subsequently killed by bark beetles (image 6). This is another problem that the Forest Service shares with the Park Service. It is only mentioned to highlight the fact that when it comes to forestry in developed recreation areas, the Forest Service and the Parks Service share the same problems, and regular communications between the two agencies is valuable. FHP has seen the same problems in the Lake Tahoe Basin, the Inyo NF and elsewhere. And both agencies are taking steps to have this problem corrected!



Image 5. Revegetation with numerous native shrubs at the newly constructed Grant Grove restaurant.



Image 6. The problem which arises when living trees are used as temporary power poles. Note these recently killed sugar pines had not been protected with SPLAT and are now scheduled for replacement with poles.



Image 7. Part of the 5,000 tree backlog of hazard trees.

Summary

This trip gave the staff of the two agencies opportunities to discuss the technical problems they encounter in implementing sound forest practices in developed recreation areas. Although the focus of the trip was on restorative actions, the backlog of Hazard Trees (image 7) that still require mitigation in both the National Parks and the National Forests was never lost sight of.

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References:

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